

IN THE CLAIMS:

Claims 1-25 (cancelled).

26. (new) A projected beam detector comprising:
a beam ^{sensor} source, and a beam ^{source} sensor configured to project a radiant energy beam on a path therebetween through at least part of a region being monitored;

a controllable optical obscuration member at least in part in the path, where the member has an obscuration state and a non-obscuration state;

a control circuit coupled to the source, the sensor, and the member and including circuits to switch the member from a non-obscuration state to an obscuration state to test beam alignment, whereby an electrical signal coupled from the sensor to the control circuit is indicative of results of a beam alignment test.

27. (new) A detector as in claim 26 wherein the obscuration member is movable between the states by a transducer.

28. (new) A detector as in claim 27 wherein the transducer comprises one of an electrically driven source of rotary motion and an electrically driven source of linear motion.

29. (new) A detector as in claim 26 where the obscuration member comprises an element having an electrically alterable transmission characteristic wherein in response to a control electrical signal, the transmission characteristic switches from the optically transmissive condition to the less optically transmissive condition.

30. (new) A method of testing a projected beam-type obscuration detector having a source for a beam of radiant energy and a sensor thereof, the method comprising:

projecting the beam from the source along an evaluating path through a region being monitored;

sensing the projected beam during a clear air condition subsequent to traversing the evaluating path;

automatically changing a transmissive characteristic of a part of the evaluating path thereby altering unscattered beam strength impinging on the sensor to conduct a beam alignment test.

31. (new) A method as in claim 30 which includes maintaining a record of test results, and repeating the steps at least intermittently.

32. (new) A method as in claim 30 where the transmissive characteristic is changed by optically blocking at least in part, the projected beam prior to the beam being sensed.

33. (new) A projected beam detector comprising:
a beam source, and a beam sensor configured to project a radiant energy beam on a path therebetween through at least part of a region being monitored, the path having a length selected from a plurality of lengths;

a controllable obscuration member, wherein the member has a plurality of obscuration states and a non-obscuration state;

a control circuit coupled to the source, the sensor, and the member and including circuits to switch the member from a non-obscuration state to a selected obscuration state, selected based on path length, whereby an electrical signal coupled from the sensor to the control circuit is indicative of a test of sensed beam strength.

34. (new) A detector as in claim 33 where the obscuration member is movable between the states by a transducer.

35. (new) A detector as in claim 33 where the obscuration member is electrically switchable between states thereby exhibiting an optically transmissive condition, relative to the beam, or a less optically transmissive condition, relative to the beam while at a common beam impinging location.

36. (new) A detector as in claim 34 where the transducer comprises one of an electrically driven source of rotary motion and an electrically driven source of linear motion.

37. (new) A detector as in claim 35 where the obscuration member comprises an element having an electrically alterable transmission characteristic wherein in response to a control electrical signal, the transmission characteristic switches from the optically transmissive condition to the less optically transmission condition.

38. (new) A method of operating a projected beam-the obscuration detector having a source for a beam of radiant energy and a sensor thereof, the method comprising;

projecting the beam from the source along an evaluating path, of a selected length, through a region being monitored;

sensing the projected beam during a clear air condition subsequent to traversing the evaluating path;

automatically changing a transmissive characteristic of a part of the evaluating path in response to the selected path length, thereby altering unscattered beam strength impinging on the sensor for conducting an operational test.

39. (new) A method as in claim 38 which includes maintaining a record of test results, and repeating the steps at least intermittently.

40. (new) A test apparatus for a projected beam-type detector comprising:
a control circuit which can be coupled to the detector;
an electrically controllable obscuration member which has at least first and second states, coupled to the control circuit, the first state corresponds to a normal operational state, the second state corresponding to partial optical obscuration, a test state, where the control circuit includes circuitry to test the detector by switching the obscuration member from the first, normal operational state to the second, test state to alter a beam transmission characteristic whereupon an output indicative of the test is coupled to control circuit.

41. (new) A test apparatus as in claim 40 which includes an apparatus to alter the beam characteristic by at least one of, moving the obscuration member into a beam path of the detector, or, altering an optical transmissive characteristic of the member.

42. (new) A test apparatus as in claim 40 where the obscuration member includes a plurality of different test states with each test state associated with a predetermined beam path length between an emitter and a sensor, the control circuit including circuitry for selecting a test state responsive to a determined beam path length.

43. (new) A test apparatus as in claim 40 where the obscuration member includes a beam alignment test state, the control circuit including circuitry to select that state to automatically test beam alignment.

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